

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning on page 1, line 17, and continuing to page 1, line 24, as follows:

A conventionally known solar battery module ~~related to the present invention~~ includes a plurality of solar cells connected in series and/or in parallel to form a solar battery matrix and sealed by a transparent resin or a transparent sheet, and a protective plate such as an acrylic resin plate bonded to the solar cells for prevention of breakage of the cells during assembling of the solar battery module (see, for example, Japanese Unexamined Patent Publication No. 61-108178 (1986)).

Please amend the caption on page 3, line 8 as follows:

BRIEF SUMMARY OF THE INVENTION

Please amend the paragraphs beginning on page 3, line 11, and continuing to page 4, line 2, as follows:

In view of the foregoing, the present ~~invention~~ technology is directed to a solar cell, a solar cell production method and a solar battery module which suppress the performance degradation even if the solar cell is cracked.

According to the present ~~invention~~ technology, there is provided a solar cell, which comprises: a photoelectric conversion layer; a light receiving face electrode provided on a front surface of the photoelectric

conversion layer; a rear electrode provided on a rear surface of the photoelectric conversion layer; and a metal foil bonded to a surface of the rear electrode and electrically connected to the rear electrode.

In the ~~inventive example~~ solar cell, the metal foil is bonded to the surface of the rear electrode for electrical connection to the rear electrode. Therefore, even if the solar cell is cracked by repeated expansion and contraction thereof due to the daily temperature cycle during actual use, the metal foil serves to collect the electric current to complement the electrical function of the rear electrode. Thus, the degradation of the performance of a solar battery module can be suppressed.

Please amend the paragraphs beginning on page 4, line 13, and continuing to page 5, line 2, as follows:

Fig. 1 is a diagram schematically illustrating the construction of a solar battery module according to a first example ~~embodiment of the present invention~~;

Fig. 2 is a bottom view of a solar cell of the solar battery module shown in Fig. 1;

Fig. 3 is a bottom view of a solar cell according to a third example ~~embodiment of the present invention~~;

Fig. 4 is a bottom view of a solar cell according to a fourth example ~~embodiment of the present invention~~;

Fig. 5 is a bottom view of a solar cell according to a fifth example embodiment of the present invention;

Fig. 6 is a bottom view of a solar cell according to a sixth example embodiment of the present invention; and

Fig. 7 is a bottom view of a solar battery module according to a seventh example embodiment of the present invention.

Please amend the caption on page 5, line 3 as follows:

DETAILED OF THE PREFERRED EMBODIMENTSDETAILED

Please amend the paragraphS beginning on page 5, line 4, and continuing to page 7, line 1, as follows:

A solar cell according to one aspect of the present invention technology comprises: a photoelectric conversion layer; a light receiving face electrode provided on a front surface of the photoelectric conversion layer; a rear electrode provided on a rear surface of the photoelectric conversion layer; and a metal foil bonded to a surface of the rear electrode and electrically connected to the rear electrode.

~~In the inventive solar cell,~~ The photoelectric conversion layer is, for example, a p- or n-type silicon substrate having a thickness of about 300 μ m to about 400 μ m and having a pn junction formed by diffusing an n- or p-type impurity. The light receiving face electrode is formed, for example, by applying a metal paste containing metal powder such as aluminum powder or silver powder in a comb-shaped pattern on the

front surface of the photoelectric conversion layer by a screen printing method and firing the applied metal paste.

~~In the inventive solar cell,~~ The rear electrode may be a porous sintered metal layer formed by firing an aluminum paste containing aluminum powder. In this case, the sintered metal layer may be impregnated with an adhesive, by which the metal foil is bonded to the sintered metal layer in direct contact with the sintered metal layer. With this arrangement, the adhesive infiltrates into the porous rear electrode, so that the metal foil directly contacts the rear electrode for electrical connection to the rear electrode.

~~In the inventive solar cell,~~ The metal foil may be an aluminum foil having a thickness of 20 μ m to 100 μ m. The aluminum foil is excellent in electrical conductivity and workability, and less expensive. Therefore, the aluminum foil is advantageous in that the degradation of the performance of the solar cell resulting from the cracking of the solar cell can be suppressed and in that the costs of materials can be reduced. Besides the aluminum foil, a stainless foil and a copper foil are usable as the metal foil. The stainless foil is advantageous with a lower cost and an excellent workability. The copper foil is advantageous with an excellent electrical conductivity and a higher compatibility with a solder.

~~In the inventive solar cell,~~ The metal foil may be bonded to a peripheral portion of the rear electrode. Since the cracking of the solar cell generally starts developing from a minute crack occurring in the peripheral portion, the cracking of the solar cell can be prevented simply by bonding the metal foil to the peripheral portion of the rear electrode.

~~In the inventive solar cell,~~ The metal foil may be patterned in any desired outer shape. Taking advantage of the excellent workability of the metal foil, the aesthetic design of the rear side of the solar cell can be improved simply by patterning the metal foil in any desired shape.

Please amend the paragraphs beginning on page 7, line 22, and continuing to page 8, line 6, as follows:

~~In the inventive solar cell,~~ The opening may have a round, oval or rectangular shape, or have a combination of any of these shapes.

~~In the inventive solar cell,~~ The opening may be formed by cutting a part of the metal foil in any desired pattern. With this arrangement, the aesthetic design of the rear side of the solar cell can be improved by simply working the metal foil to cut the metal foil in any desired pattern for the formation of the opening. Therefore, the solar cell can advantageously be employed for a solar battery module of natural lighting type.

Please amend the paragraph beginning on page 8, line 12, and continuing to page 8, line 16, as follows:

According to another aspect of the present ~~invention~~ technology, there is provided a solar cell production method for producing the aforesaid inventive solar cell, which comprises the step of bonding a metal foil to a surface of a rear electrode by a heat sensitive adhesive.

Please amend the paragraph beginning on page 9, line 5, and continuing to page 9, line 13, as follows:

In the ~~inventive~~an example production method, the metal foil bonding step may comprise the steps of: applying the adhesive to the metal foil; positioning the metal foil having the adhesive applied thereto on the surface of the rear electrode; and heating the positioned metal foil, and pressing the metal foil against the rear electrode to infiltrate the adhesive into the rear electrode and bond the metal foil in direct contact with the rear electrode. This production method is advantageous in that the metal foil positioning operation can be performed at the ordinary temperature.

Please amend the paragraphs beginning on page 10, line 10, and continuing to page 10, line 23, as follows:

According to further another aspect of the present ~~invention~~technology, there is provided a solar battery module comprising: solar cells arranged in a planar array; connection members which connect the solar cells in series; and a sealant for sealing the connected solar cells; each solar cell having a photoelectric conversion layer; a light receiving face electrode provided on a front surface of the photoelectric conversion layer; a rear electrode provided on a rear surface of the photoelectric conversion layer; and a metal foil bonded to a surface of the rear electrode and electrically connected to the rear electrode.

~~In the inventive solar battery module,~~ The metal foil of the each solar cell may have an opening, the rear electrode being partly exposed

through the opening, the sealant contacting with the rear electrode through the opening.

Please amend the paragraph beginning on page 11, line 4, and continuing to page 11, line 8, as follows:

Fig. 1 is a diagram schematically illustrating the construction of a solar battery module produced by employing solar cells according to a first example embodiment of the present invention, and Fig. 2 is a bottom view of each of the solar cells of the solar battery module shown in Fig. 1.

Please amend the paragraph beginning on page 12, line 6, and continuing to page 12, line 7, as follows:

Next, an explanation will be given to how to bond the aluminum foils 2 to the solar cells 1 on a one-by-one basis.